POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard time	Mt. Wilson group No.	Heliographic: Diff. in longitude	Heliographic: Longitude	Heliographic: Latitude	Area: Spot or group	Area: Total for each day	Spot count	Observatory
1938	*h m*		°	°	°				
Sept. 26	11 9	6123	−9.0	138.0	+17.0	242		23	U. S. Naval.
		6112	−7.0	140.0	−11.0	388		9	
		6111	+14.0	161.0	−10.5	388		20	
		6119	+15.0	162.0	+12.0	194		11	
		6105	+71.0	218.0	+21.0	61	2,430	2	
27	11 24	6127	−70.0	03.6	−9.0	73		6	Do.
		6122	−46.0	87.6	−12.0	24		2	
		*	−46.0	87.6	+35.0	12		2	
		6121	−37.0	96.6	+16.0	48		14	
		6121	−29.0	104.6	+15.0	73		12	
		*	−30.0	103.6	−24.0	16		2	
		6117	−9.0	124.6	+31.0	36		7	
		6116	−3.0	130.6	−12.0	485		75	
		6123	+5.0	138.6	+18.0	315		35	
		6112	+7.0	140.6	−11.0	388		8	
		6111	+27.0	160.6	−9.5	436		17	
		6119	+29.5	163.1	+12.0	97		14	
		6105	+85.0	218.6	+21.0	97	2,100	1	
28	11 3	6131	−88.0	32.6	−17.5	97		1	Do.
		6127	−57.0	63.6	−9.0	61		5	
		6122	−34.0	86.6	−13.0	36		3	
		6122	−33.0	87.6	−17.0	16		7	
		6121	−17.0	103.6	+14.0	121		27	
		6117	−1.0	119.6	+31.0	12		2	
		6116	+10.0	130.6	−13.0	533		65	
		6123	+18.0	138.6	+18.0	339		36	
		6112	+19.5	140.1	−11.0	388		6	
		6111	+41.0	161.6	−10.0	485		18	
		6119	+42.0	162.6	+13.0	36	2,124	9	
30	9 22	6131	−57.0	38.2	−17.0	109		1	Mt. Wilson.
		6130	−56.0	39.2	+21.0	194		16	
		6127	−30.0	65.2	−9.0	48		9	
		6125	−22.0	73.2	+13.0	48		30	
		6129	−21.0	74.2	+9.0	36		5	
		6122	−9.0	86.2	−13.0	48		1	
		6121	+7.0	102.2	+14.0	291		47	
		6116	+37.0	132.2	−13.0	218		24	
		6123	+43.0	138.2	+17.0	194		26	
		6112	+46.0	141.2	−12.0	485		6	
		6111	+69.0	164.2	−11.0	436		9	
		6128	+73.0	168.2	+15.0	73	2,180	1	

Mean daily area for 27 days=1,655.
*=not numbered.
** Total spot count for day=110.

PROVISIONAL SUNSPOT RELATIVE NUMBERS FOR SEPTEMBER 1938

[Dependent alone on observations at Zurich, Switzerland]

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen. Sternwarte, Zurich, Switzerland]

September 1938	Relative numbers	September 1938	Relative numbers	September 1938	Relative numbers
1	*d* 106	11	*d* 67	21	*ad* 56
2	*ad* 124	12	59	22	70
3	*a* 101	13	44	23	86
4	107	14	48	24	*d* 97
5	*b* 120	15	*d* 44	25	*MMacc* 131
6	136	16	*a* 47	26	150
7	*a* 106	17	46	27	*ab* 143
8	*a* 88	18	65	28	137
9	74	19	*d* 55	29	*a* 125
10	56	20	57	30	131

Mean, 30 days=89.0.

		h m	*h m*	
Sept. 8.	Middle large, bright chromospheric eruption	11 00–	11 15,	W.
21.	Middle large, bright chromospheric eruption	6 56–	7 14,	E.
22.	Middle large, bright chromospheric eruption	13 31–	13 50,	E.
23.	Middle large, bright chromospheric eruption	15 45–	16 20,	E.
25.	Middle large, bright chromospheric eruption	9 00–	9 15,	E.
26.	Middle large, bright chromospheric eruption	8 43–	9 03,	M.

NOTE.—The complete list of eruptions observed at the different stations is being regularly published in our "Bulletin for Character Figures of Solar Phenomena." No. 43, containing the observations of the eruptions in July, August, and September 1938, will not be ready until January 1939.—*W. Brunner.*

a=Passage of an average-sized group through the central meridian.
b=Passage of a large group or spot through the central meridian.
c=New formation of a group developing into a middle-sized or large center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central circle zone.
d=Entrance of a large or average-sized center of activity on the east limb.

AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. LITTLE in charge]

By B. FRANCIS DASHIELL

During the month of September 1938 a total of 307 radiometeorograph and 208 airplane observations were made from 18 systematically-located stations in the United States. The mean free-air data based on these observations are given in tables 1 and 1a, and they include the basic meteorological elements of pressure (P), temperature (C), and relative humidity (R. H.), recorded at certain standard geometric heights. All the stations listed in table 1a made a total of 146 observations at a height of 16 kilometers, while at four of these stations, 27 observations were continued to 22 kilometers.

These "means" are omitted whenever less than 15 observations are made at the surface and less than 5 at a standard height, but 15 observations are required for those levels that fall within the limits of the monthly vertical range of the tropopause. The method used for computing these means has been described in "Aerological Observations," appearing in the January 1938 issue of the MONTHLY WEATHER REVIEW.

Chart I, published elsewhere in this REVIEW, shows that the mean *surface* temperature (° F.) for September was warmer than normal over all portions of the country, except in the Northeast and a few sections of the South and Southwest. Over the northern Rocky Mountain region, and from the lower Missouri Valley and central Plains States northward, the current month was from 4° to 10° warmer than normal, while the far Western States experienced a departure as high as 4° above the normal. But, to the East and Northeast, from the western Great Lakes region and northern middle Atlantic States, the month showed moderate below-normal departures from the mean surface temperatures. For the country, as a whole, the temperature remained above the normal as was the case in the preceding months of July and August.

The mean *free-air* temperature (° C.) recorded *above* the surface over the country was seasonally lower in September than during the preceding month of August. But over the far Northwest, at Seattle and Spokane, Wash., higher mean temperatures prevailed in September at all levels from 0.5 to 5 kilometers, inclusive. Over Seattle, Wash., the September means were higher than in August by 1.7°, 4.3°, 4.1°, 3.4°, 2.8°, 2.6°, and 2.5° C., at 0.5, 1, 1.5, 2, 2.5, 3, and 4 kilometers, respectively. The free-air temperature was lower in September than in July at all stations, with the exception of San Diego, Calif., at 0.5 and 1 kilometer, where a difference of 3.9° occurred at 0.5 kilometer. Temperatures during the current month were approximately the same as recorded in September 1937 in the lower levels, but at the higher elevations the mean temperatures exceeded those recorded in 1937 over the Rocky